

REMARKS

Applicants respectfully request reconsideration followed by allowance. The Examiner's careful review of the application is acknowledged with appreciation.

Applicants amended their specification to correct a self-evident, but nonetheless inadvertent error in word choice. The proposed correction of "lower" to "greater" is consistent with the specification as a whole. It will be appreciated that the correction conforms the verbiage to what is already elsewhere disclosed to a person skilled in the art. Applicants respectfully direct the Examiner's attention to page 3 and to page 4 (line 14). The correction avoids new matter.

Applicants respectfully traverse the rejection of claims 1-6 under 35 U.S.C. §103(a) over the Yagi et al (U.S. Patent 4,894, 281) and Nakajima (U.S. Patent 6,207,600 B1) references.

Before responding to the references themselves, Applicants respectfully acknowledge these admissions in the Office Action:

- 1) The "Yagi [reference] does not specifically show that the fibers have a melting point such that the formula of claim 1 is satisfied." Office Action, page 2.
- 2) The "Yagi [reference] does not specifically show that a nucleating agent is added to the fibers as in instant claim 3." Office Action, page 2.
- 3) The "Yagi [reference] does not show that the fibers have an average fiber diameter as in instant claim 6." Office Action, page 2.

It appears from the Office Action that both the Yagi and Nakajima references were nonetheless relied upon to arrive at an obviousness conclusion, notwithstanding the non-obvious differences noted above.

The Applicants respectfully submit the Office Action errs in its construction of the Yagi reference at column 6, lines 11-32. Contrary to the Office Action, there is no description of “polypropylene fibers” in the Yagi reference at column 6, lines 11-32. The Yagi reference is explicitly referring to a special class of polymers, namely “ultra-high-molecular-weight polyethylene naming an intrinsic viscosity $[\eta]$ of at least 5 dl/g....” These polymers may contain a “small amount of other α -olefin.” The thus described co-polymer of ethylene and a “small amount of other α -olefin” is not polypropylene. No other fibers are described or suggested in the Yagi reference at column 6, lines 11-32.

Therefore, Applicants respectfully submit there is a fourth non-obvious difference over the art:

- 4) The Yagi reference does not disclose or suggest polypropylene at column 6, lines 11-32.

Applicants next respectfully submit the Office Action mistakenly construes the Nakajima reference by asserting it “shows reinforcing polypropylene fibers in a fibrous molding wherein the polypropylene fibers have a melting point of 160° to 168°C . . .” Office Action, page 2. The cited passage refers to “raw material” (column 4) for primary products described at column 10, lines 16-34, such as “underwear, shirts ...; bedding ...; medical materials; interior materials such as carpets ...; ... concrete reinforcement ... None of the specifically named uses appears to be a “plastic” molded product. The clothing and filter materials are clearly not fiber-reinforced moldings. In fact, no fiber reinforced moldings - of thermoplastic or thermoset materials in the reference.

Therefore, as to the secondary reference, Applicants respectfully submit there is now a fifth difference from the cited art:

- 5) The Nakajima reference does not disclose a polypropylene fiber reinforced polypropylene-based composite material.

Despite these differences, the Office Action states “it was known by the skilled artisan that the polypropylene fibers are effectively used in polypropylene moldings,” but the assertion lacks evidentiary basis in the applied references. Accordingly, Applicants respectfully request the favor of an Examiner’s Declaration.

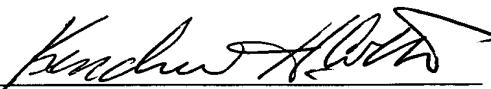
Still further, despite the foregoing impediments, the Office Action concludes “The formula of instant claim 1 is satisfied ...” Office Action, page 3. This hindsight guided conclusion appears to be rooted in a mistaken application of the applied references.

Finally, Applicants respectfully suggest the conclusions expressed in the Office Action, page 3, the paragraph about dependent claims 2-6 are also rooted in hindsight. There is no teaching, suggestion or motivation in the cited references to support the conclusions. Merely because some parameters, e.g., fiber diameter, *might be* determined, it does not follow that the fiber diameter would have been obvious in the present claimed invention. Besides, Applicants respectfully submit that Office Action errs by relying on “routine experimentation” because it reflects a truncated analysis contravening 35 U.S.C. §103. See, e.g. In re Fay, 345 F2d 594 (CCPA 1965) (reversing obvious rejection based on allegations of “routine experimentation”), and 35 U.S.C. §103(a) (last sentence).

Applicants therefore respectfully submit their case is now in condition for allowance. If the Examiner has any questions, please contact the undersigned.

Respectfully submitted,

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APPENDIX

Amendments to the Specification:

Amend the paragraph at page 4, starting at line 1.

In fiber reinforced polypropylene-based composite materials, to melt a matrix resin and mix or insert reinforcing fibers thereto is most effective. In such a case, if a melting point, $T_m(M)$, of a polypropylene-based resin which is the matrix resin is equal to or ~~lower~~ greater than a melting point, $T_m(F)$, of a polypropylene-based resin which is the material forming the reinforcing fibers, when the matrix resin is melted and the reinforcing fibers are mixed or inserted thereto the reinforcing fibers also melt; no desired composite materials can be obtained. Furthermore, also from the viewpoint of adhesiveness between the reinforcing fibers and the matrix resin, a relationship between a melting point, $T_m(M)$, of a polypropylene-based resin which is the matrix resin and a melting point, $T_m(F)$, of a polypropylene-based resin which is the material forming the reinforcing fibers is extremely important and the melting temperatures must have the aforementioned relationship, $T_m(F) - T_m(M) > 10^\circ\text{C}$.